



Fact Sheet

AgSTAR Program



A Smart Investment in Manure Management

The AgSTAR program is a breath of fresh air for the nation's environment and economy. AgSTAR, a voluntary program, encourages the widespread use of technologies that increase livestock production profits and demonstrates that industry and environment can work together to create a cost-efficient and environmentally aware America.

As part of this unique partnership, AgSTAR participants—including the

livestock, energy, and governmental sectors—are coming together to promote the widespread use of profitable manure management systems that reduce pollution. By investing in these technologies, AgSTAR Partners realize substantial returns through reduced electrical, gas, and oil bills, revenues from high-quality manure by-products, and savings on manure management operational costs. Partners also

reduce pollution associated with water resources, odors, and global warming. AgSTAR offers the American livestock producer a new approach for safeguarding the environment and achieving greater agricultural efficiency.

AgSTAR is a key component of President Clinton's Climate Change Action Plan, which promotes efficiency and U.S. ingenuity as the solution to global warming.

Methane: The Key to Profitable Pollution Prevention

Today's highly competitive livestock industry requires that manure handling and storage systems maintain critical sanitary conditions and comply with regulations where applicable. Unfortunately, almost all of today's management systems offer *no real financial returns* for producers.

AgSTAR regards manures as resources capable of improving producers' profits and a cornerstone of on-farm pollution prevention. Achieving profits from manure resources is really quite simple. At many facilities animal manure is handled and stored as liquids or slurries. Manures under these conditions decompose anaerobically and produce large volumes of gases. The primary gas is methane, a greenhouse gas that contains an energy equivalent close to that of natural gas.

Producers also have large energy requirements for essential farm equipment. This energy is purchased from electric and gas companies and is sometimes as high as 20 percent of monthly operational costs. AgSTAR technologies significantly reduce these monthly operational costs—while also reducing the methane emitted from facilities—by capturing

it for use as an on-farm energy source.

Further, because AgSTAR technologies focus on the *complete digestion* of manure's organic component, which yields more methane for use as a fuel, producers achieve additional environmental and operational benefits.

These benefits include improved surface and ground water quality, enhanced fertilizer value of the processed manure, virtual elimination of offensive odors, better recycle flush water qualities, and, in many cases, reduced frequency of expensive lagoon cleanings.

Success Stories

Dairy Facility—Since 1982 a 500-head dairy has been using a conventional methane digester system to help solve its wastewater lagoon problems. The digester, a large rectangular shaped concrete pit, is loaded with manure on a daily basis from the tractor scraped feedlanes. An attached flexible cover captures methane produced during the biological decomposition of the manure. Methane is used at the dairy to meet the facility's electrical requirements, and waste heat is captured to heat water for milk parlor cleanings. The digester system also provides substantial savings in monthly lagoon cleanings as well as additional revenues from sales of the nutrient-rich solid fractions to a local nursery.

As a result, the investment reduced annual O&M costs by about \$53,000 while providing a 21 percent annual rate of return.

Pork Production Facility—In 1980 a 1,000 sow farrow-to-finish facility covered a portion of an existing lagoon to collect methane for on-farm energy applications. The collected methane fuels a 75 kilowatt (kW) engine generator, and waste heat is used for space heat and grain drying. **As a result, the investment reduced annual O&M costs by about \$36,000 while providing a 34 percent annual rate of return.**



Tackling the Barriers to Innovation

A goal of AgSTAR is to encourage the widespread use of methane recovery systems, which will reduce the costs of livestock production for producers. In doing so, EPA, USDA, and DOE endeavor to reduce air and water pollution, while helping producers redirect dollars toward profitable on-farm investment.

Common Problems

Lack of Information and Expertise—Reliable information on methane recovery systems is difficult to obtain and often incomplete for site-specific technical and economic evaluations.



The AgSTAR Solution

AgStar provides information and tools to help producers make informed "go" or "no go" decisions.

Poor Technical Perception—Many methane-to-energy facilities constructed during the Energy Crisis of 1975 did not consider the importance of simple operation, servicing, and economic returns for producers.



AgSTAR Charter Farm sites in key areas across the U.S. demonstrate attractive economic returns with simple operational procedures.

Difficult Financing—Investments in on-farm energy systems require upfront capital.



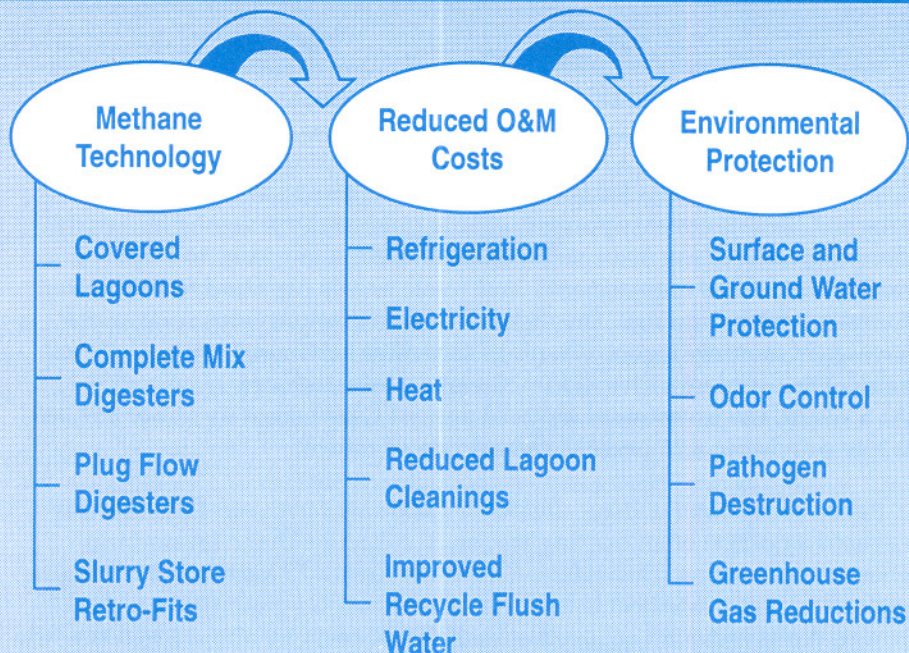
AgSTAR continually identifies and develops financing sources from public and private sources.

Restricted Markets—Low demand for on-farm energy technologies results in a lack of consumer understanding about potential cost savings and farm profitability. Prices remain high because of site-specific engineering and small production runs.



AgSTAR promotes the use of on-farm energy technologies and by-products as cost-effective and high-quality products to consumers, and informs manufacturers and the agricultural community about benefits of investing in new technologies and markets.

A Win-Win Solution for Producers and the Environment



AgSTAR Hotline: 1-800-95AgSTAR

AgSTAR: How Does it Work

Your Part

To become an AgSTAR Partner, a producer signs a Memorandum of Understanding (MOU) with EPA. In the MOU, AgSTAR Partners agree to survey their facilities and install AgSTAR technology where it is profitable. Partners also agree to appoint an implementation manager who oversees participation in the program.

EPA's Part

The MOU also states EPA's commitment to AgSTAR Partners. Through a working group including members from EPA, USDA, and DOE, a series of products, information, and services will be available to AgSTAR Partners.

- ◆ **Farm Ware** is a state-of-the-art computer software package that enables Partners to survey facilities, assess energy options and applications, and select the most profitable installation.
- ◆ **AgSTAR Handbook** will be a comprehensive methane recovery handbook and reference guide for specific livestock rearing methods and manure management strategies. Sample chapters include technical design, odor control, energy applications, system management, financing availability, and case studies.
- ◆ **Public Recognition** is provided through public service advertising in major magazines and newspaper articles, reports on new manure management technologies, a semi-annual update, and other materials. To encourage participants to promote their own AgSTAR activities, EPA distributes ready-to-use promotional materials including the AgSTAR logo.
- ◆ **R&D** identifies and develops mechanisms that improve economic, technical, and managerial performance, as well as innovative nutrient management strategies.